

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

4421
N813
cop 2

NORTHEASTERN FOREST PEST REPORTER

United States Department of Agriculture
Forest Service Region Seven



U. S. DEPT. OF AGRICULTURE
NATIONAL FOREST LIBRARY

OCT 17 1963

Pest Control Zone Offices
Amherst, Mass.
Harrisonburg, Va.

6816 Market St., Upper Darby, Pa. CUREL 12-12-63

NUMBER 3

September, 1963

FOREWORD

This issue of the Reporter pretty well sums up the Forest Insect and Disease conditions that prevailed in 1963. The unusually dry summer had both bad and good effects. It hastened deterioration of trees attacked by insects but retarded development of moisture-loving diseases.

But the Reporter should do more than merely report where various insects and diseases were observed. People are just as interested in knowing what is being done about them. To this end we have some suggestions to make and will need your help. In giving information to our zone offices you will improve the Reporter if you will:

1. In providing items on the occurrence of insects and diseases report only those for which you have informative survey data.
2. Tell about your control efforts, giving data on methods, formulations and results.
3. A brief resume of studies in progress by your staff would be appreciated.
4. A brief outline of special survey programs you may be planning.

STATUS OF FOREST INSECTS - 1963

SPRUCE BUDWORM (Choristoneura fumiferana)

Maine

Assessment of the data from the pilot test in the Oxbow area using the material Bacillus thuringiensis is still in progress and may not be available until this fall or winter. The general impression gained was that this material was not effective in controlling the budworm on spruce and fir in this area.

On the regular spray project (approximately 500,000 acres) budworm control was rated as excellent based on pre- and post-spray larval counts. In areas outside the spray area, a reduction of 35% from early to late instar larval populations has occurred. Based on an intensive budworm egg mass survey, which is now in progress over the entire area, the following general observations can be made:

1. Within the spray area only isolated heavy egg mass collections have been obtained.
2. Outside and west of the general spray area, egg mass populations in 1963 have declined in comparison with previous year's data. More sampling in this general area may change this situation, however.
3. In the Oxbow area where the B.t. test was conducted, current defoliation of spruce and fir is heavy, as well as are egg mass populations.
4. An isolated area of budworm infestation in the Bancroft area, well south of the general infestation area, appears to be declining.

Special Note: In the July 9, 1963 issue of the Pest Reporter, it was reported that spray applications were one-half pound of DDT in one gallon of water applied twice. The actual spray dosage and application rate applied was one-half pound of DDT in one-half gallon of oil applied twice over the entire spray area.

PINE LOOPER (Lambdina athasaria pellucidaria)

Massachusetts Adult emergence from overwintering pupae occurred about mid-June on Cape Cod. Oviposition occurred shortly thereafter. Eggs and young larvae were observed on old pitch pine needles on July 2. Infestations are general throughout Barnstable County, with heavy defoliation expected in the towns of Dennis, Provincetown, Truro, Mashpee and Falmouth. A helicopter application of Bacillus thuringiensis is planned for early September on an experimental basis if this looper infestation persists. Present indications are that it is declining due to natural causes.

RED-HEADED PINE SAWFLY (Neodiprion lecontei)

Region 7 Light and scattered infestations reported from throughout the Region. Field observations have provided the following biological information.

Maryland Mature larvae found in early August in Garrett County, Maryland
West Virginia and Grant County, West Virginia. In Hardy County, adjacent to
Virginia Grant County, larvae in 1962 matured in mid-September. Sawfly adults and eggs found on August 6 in several young shortleaf pine plantings (2' - 5' tall) on the Clinch Ranger District, Jefferson National Forest, Virginia. Some newly hatched larvae were also noted. Due to the altitude and terrain there is only one late sawfly generation each year in this locality.

EUROPEAN PINE SAWFLY (Neodiprion sertifer)

Pennsylvania In Monroe County the virus common to this sawfly was used to suppress an outbreak of this pest.

New Jersey Populations were very low in the northern half of the State where previous damage had been heavy. A moderately infested plantation was successfully treated with the disease-causing virus of this pest.

VIRGINIA PINE SAWFLY (Neodiprion pratti pratti)

Virginia Populations of this insect are lighter this year than last.

LARCH SAWFLY (Pristiphora erichsonii)

- Maine In Washington County where defoliation was recorded on 28 numbered trees on a study plot, current defoliation is light, but toward the coastal areas somewhat heavier defoliation of larch has been noted.
- New York Heavy defoliation of planted European larch on the Tombannock Reservoir in Rensselaer County has been reported, while in the town of Greenwood (Steuben County) a 50 to 60 acre plantation of Japanese larch has been heavily defoliated.

OTHER SAWFLIES (Neodiprion pratti paradoxicus and N. pini-rigidae)

- New Jersey These two sawfly species were rare this spring in the southern part of the State where they have proved damaging in the past as part of a complex attacking pitch pine.

GYPSY MOTH (Porthetria dispar)

- New Hampshire Vermont Noticeable defoliation by this insect was noted throughout southern New Hampshire and Vermont. In the Bennington, Vermont area a virus wilt disease was quite common in the larval populations, indicating a natural decline of gypsy moth population in this area. Experimental control projects using Sevin and Zectran were undertaken in the towns of Pownal and Sandgate, Vermont. Results of these tests are not yet available.
- New York Moderate to heavy defoliation reported from numerous localities in northeastern New York. A control project using DDT was successful in controlling the gypsy moth on 70,000 acres in eastern New York. In Saratoga County the wilt disease was widespread. Numerous diseased larvae were collected for processing to obtain a stock of the virus for 1964 experiments.
- Pennsylvania Approximately 8,000 acres were sprayed in eastern counties (Pike and Monroe) this spring to control this pest. The trapping program to discover residual or new infestations is in progress.
- New Jersey Over 70,000 acres were sprayed in the following northern counties: Bergen, Morris, Passaic, Sussex, and Warren. An early report of the trapping program revealed the capture of male moths in Passaic County.

LINDEN LOOPER (Erannis tiliaria)

- Vermont In Bennington County, the linden looper was found commonly associated with gypsy moth infestations.
- Massachusetts General infestations are declining throughout the State. A heavy hatch occurred, as expected, about May 1, but disease and parasites were quite effective in reducing the larval populations.
- New York Hardwoods are being defoliated by this looper from town of Long Lake north to county line in Hamilton County. Looper abundance was also noted in the towns of Hope and Wells and caused some annoyance to people using the picnic areas on Lake Durant and Lewey Lake. At Lake Eaton the campsite was sprayed to prevent damage on June 12. In Hamilton and northern Fulton Counties the beech and birch seem to suffer most from defoliation by this insect. Light defoliation was recorded in townships of Clifton, Colton, Fine, and Piercefield in the Adirondacks. Defoliation was also noted in towns of Osceola, Highmarket, Montague and Worth in Jefferson and Lewis Counties.
- Pennsylvania Heavy larval populations were nearly eliminated by the late spring freeze.

SPRING CANKERWORM (Paleacrita vernata)

- Massachusetts A total of 11,325 acres of woodland south of Boston were sprayed in May and June for control of this insect complex.
- New York In Rockland and Ulster Counties last year's infestations appear to be declining.
- Pennsylvania Light infestations in northern and southeastern counties were, in general, made lighter by late spring freezing temperatures. However, a late developing infestation causing moderate defoliation was found in northern McKean County against the New York state line. Bruce spanworm, Operophtera bruceata (Hulst), may be a component of this infestation.
- Maryland The oaks heavily defoliated in 1962 and 1963 in Bachman's Valley, Carroll County (northern Maryland) by cankerworms were reported under attack now by buprestids.

West Virginia Only occasional larvae were found. The rareness of this insect is due at least in part to the late freeze.

FALL CANKERWORM (Alsophila pometaria)

Pennsylvania Heavy infestations were destroyed by late freezes that also killed the hardwood foliage. These larvae that may have escaped freezing probably died of starvation.

New Jersey Common and abundant in west-central counties, with some areas nearly completely defoliated. At Ringwood Manor State Park in northern New Jersey (Passaic County) hundreds of large (18-24" DBH) red and black oaks died this year following heavy cankerworm defoliation in 1962.

West Virginia Rare in the State, due at least in part to late freezes that destroyed insects and foliage.

FOREST TENT CATERPILLAR (Malacosoma disstria)

Maine Defoliation of poplar in the area south of Caribou has been caused by the Forest Tent Caterpillar.

Pennsylvania Only a few caterpillars were seen, without defoliation, in western counties (Clarion, Clearfield, Mercer). Frost in late May was at least partly responsible for the low populations.

New Jersey Investigation of a 100-acre heavily defoliated area in Salem County (southwestern New Jersey) revealed approximately 35% of the pupae parasitized. A light infestation in a two acre oak stand was found in west-central New Jersey (Hunterdon County).

FALL WEBWORM (Hyphantria cunea)

Pennsylvania In west-central counties black cherry appears to be the main host. The hatching date there is estimated as late July, nearly one month later than the hatching date in the mountains of western Virginia. Infestations seem to have decreased from the 1962 levels.

New Jersey Infestations are less abundant than in 1962.

Virginia

On June 24, 1963, adults and egg masses were first noted on hickories and basswood along the Blue Ridge Parkway. Several days later newly-hatched larvae were observed. By mid-July larval webs were encasing several leaves. Cool weather in the Blue Ridge Mountains prolonged insect development along the Parkway. Early insect activity was confined to hickories and basswood, but webs were later found on black cherry, sourwood, black gum and black walnut. Localized heavy infestations along the Blue Ridge Parkway were sprayed in mid-July with back-pack mistblowers, using a DDT emulsion. Adequate control was obtained with this method.

BIRCH LEAF MINER (Fenusa pusilla)

New England New York

In southern Maine, it appears that current damage is not as severe as last year. In northern New Hampshire (Littleton-Franconia area) heavy damage has occurred for the second year on much of the birch. Elsewhere in New England it has also been commonly reported. In New York browning of gray and white birch by this insect has been particularly noticeable.

A LOOPER (Phigalia titea)

Virginia

This looper caused heavy defoliation of hardwoods, predominantly oaks, on the Lee Ranger District, George Washington National Forest, Virginia, in 1962 and 1963. A brief study of confined adults revealed up to 634 eggs deposited by a single female. The average number for nine females was 188 eggs.

The insect overwinters as a pupa in the forest soil. Peak adult emergence in 1963 occurred from March 23 through March 26, the winged males appearing to emerge earlier than the females which have only vestigial wings.

Females crawl up trees, apparently regardless of species, to deposit eggs in loose clusters on twigs at and in bark crevices and irregularities. Egg hatch in 1963 took place on or very close to April 3. By crawling, spinning down and being blown by the wind, larvae were distributed throughout the stand. Initially the only available food was the green tissue of the barely opened buds of bushes and trees in the understory, mainly, blueberry and hickory. These supported a large number of the tiny caterpillars. However, great numbers died from failure to reach food. Continued warm weather resulted in an increased supply of food and the caterpillars that had survived on buds went on to heavily defoliate the stand.

OAK LEAF ROLLERS (Chiefly Groesia (Argyrotoxa) semipurpurana)

- Pennsylvania Heavy infestations that were expected to cause heavy defoliation failed to survive the late spring freeze.
- New Jersey Defoliation to nearly 100% was found in north-central New Jersey where populations were common and abundant. Other spring defoliators were minor components of the populations. Refoliation has masked the damage of heavily defoliated trees.

A LEAF-MINING WEEVIL (Odontopus (Prionomerus) calceatus)

- New Jersey In Warren County (northwestern New Jersey) one adult was found on August 1 on yellowpoplar, and several leaves mined by the larval stage also were found in the same observation area. The significance of this find is not clear, so this area will be watched closely. This insect was previously observed in Kentucky, where in the spring of 1962 the foliage of yellowpoplar was severely mined over extensive areas. Fortunately, heavy populations failed to materialize in 1963. The recorded range of the insect is the northeastern United States, Michigan and Florida. Its recorded hosts are sassafras and yellowpoplar. In Kentucky magnolia was also a host.

LARCH CASEBEARER (Coleophora laricella)

- Rhode Island Damage by the larch casebearer has been very minor this year in several larch plantations now under regular observations.

WHITE PINE WEEVIL (Pissodes strobi)

- New England
New York Damage continues to be severe in southern New York, New Hampshire, and Maine.
- Pennsylvania Heavy attack (over 20% current weeviling) continued in west-central counties in unprotected stands. In northern tier counties up to 90% current attack was reported in untreated stands.
- New Jersey Current weeviling was high in northwestern New Jersey, particularly in planted trees and old fields.
- West Virginia In the southern part of the State (Mercer County) the insect was reported to have increased.

ZIMMERMAN PINE MOTH (Dioryctria zimmermani)

West Virginia In Boone and Mercer Counties this insect was found in Scotch pine plantations. This is believed to be the first record of this insect in the State, although it has been recorded from some of the surrounding states.

WHITE PINE SHOOT BORER (Eucosma gloriola)

Pennsylvania In Mercer County (western Pennsylvania) 10% of the pines in a white pine plantation were attacked. The insect is relatively new to this area of the State.

New Jersey Damage by an insect tentatively identified as this species was found in hybrid white pine in an experimental plantation at Washington Crossing State Park.

PINE ROOT COLLAR WEEVIL (Hylobius radicis)

New York Some damage to Scotch and red pine plantings in northern Fulton County reported.

PINE LEAF APHID (Pineus pinifoliae)

Maine In eastern Maine this insect continues to be a serious pest of white pine. In northern Aroostook County, the crooked shaped pine branches, so characteristic of aphid damage, have been noted in an area near Oxbow, Maine.

New Hampshire Tips of white pine beginning to droop and die from aphid feeding in nearly all areas where red spruce is found in close proximity to white pine.

New York In Hamilton County, new growth on pine is being killed by current aphid attack; also reported as heavy on white pine in northern Herkimer County. A heavy but local infestation reported in the township of Parishville.

RED PINE SCALE (Matsucoccus resinosae)

New Jersey Surveys continue in the northern part of the State in the area where eradication of this insect has been attempted. No further infestations have been found.

PIT-MAKING OAK SCALE (Asterolecanium minus)

Pennsylvania Heavy tree mortality continued. In Lancaster and York Counties (southeastern Pennsylvania) thousands of chestnut oak trees died in 1963. The scale insect is believed to be the major force in a complex of unfavorable events and agents resulting in widespread mortality.

CHERRY SCALLOP SHELL MOTH (Hydria (Calocalpe) undulata)

Pennsylvania On black cherry, nearly absent in west-central Pennsylvania where it had been abundant enough in 1962 to cause the browning of hillsides.

STATUS OF FOREST DISEASES

A. HARDWOODS

ASH DIEBACK (cause unknown)

Northeast The ash dieback survey is progressing satisfactorily. Survey crews are now in western Pennsylvania. Survey of plots in New Hampshire, Vermont, Massachusetts, Connecticut and New Jersey revealed that, at present, incidence of the disease in the forest is fairly light. In Pennsylvania, the crews are finding the intensity of the disease greater than throughout New England generally.

Criteria for disease classification are thin crowns, dwarfed, bunched and off color foliage, dead twigs and branches in the upper crown and epicormic branching. Occasionally, cankers are visible on branches and main stems. As yet no vector(s) has been isolated which seems to be causing this problem.

New York Losses continuing heavy. One observer notes that appreciable decline seems to occur during the dormant period.

New Jersey Sapling white ash was found cankered and declining in a small grove in northwestern Sussex County last August. A fungus isolated and tentatively identified as Fusicoccum sp. may have some role in canker formation or development.

CHERRY GUMMOSIS (cause unknown)

Pennsylvania The branch mortality and the accompanying gum flow which was noticed on black cherry last summer was noticed again this July. Thus far, all affected branches examined have cankers which appear to have remained active from last summer. We shall be pleased to receive prompt reports of symptoms appearing again this year. Reporting such information to the Pest Control Zone offices enables the staff to act more quickly and effectively in determining the causal organism and evaluating pathogenicity and damage.

MAPLE DECLINE (cause unknown)

Northeast A flagging of soft and hard maple is being reported from many localities. A fungus, Steganosporium, has been consistently found associated with this condition. This fungus, however, is reported to be saprophytic and its role in the etiology of this disease is not known.

Reports from New York indicate that this problem is intensifying. An observer from New Hampshire notes the sudden dying of young, vigorous sugar maples. These trees retain their bright reddish-brown dead foliage. A verified report of apparent maple decline in a sugar bush in Lamoille County, Vermont was received. This was distinctly different from the reports of individual branch flagging. A decline of soft maple is reported from New York and has been observed generally throughout New England. Typical symptoms of this condition are dead twigs and branches in the upper crown with mortality gradually proceeding downward.

OAK DECLINE (cause unknown)

Virginia
West Virginia Areas of declining oaks have been noticed throughout the two states, especially on the drier exposures. However, upon recent examination of oak decline observation areas established in 1960 on the War Springs Ranger District of the George Washington National Forest, it appears that some of the oak previously described as declining has recovered to an extent. Such areas will be examined annually to observe any trends in further decline or recovery.

BEECH DECLINE (cause unknown)

New York This disease is becoming more noticeable throughout central and southern New York.

OAK WILT (Ceratocystis fagacearum)

West Virginia The total number of trees processed through the week ending August 23 is 3719.

Virginia Over 160 suspects have been plotted from the air on state land. Almost 60 infected trees have been located and treated on federal land. (George Washington National Forest)

Kentucky In southeastern Kentucky, oak wilt incidence is reported as being considerably less this year as compared to previous years.

Pennsylvania
Maryland Oak wilt detection and suppression programs are proceeding in these States. Reports on disease incidence for this season have not been received.

DUTCH ELM DISEASE (Ceratocystis ulmi)

New York This disease is taking a heavy toll this year if crown symptoms are any indication. The dry spring and summer may have intensified the appearance of this problem.

Virginia Elms declining rapidly along highways in Rockingham, Highland, Page and Shenandoah Counties are reported as showing characteristic symptoms of Dutch elm disease. Dutch elm disease is also thought responsible for death of single trees in each of Fauquier and Fairfax Counties.

Maryland Dutch elm disease is still plaguing ornamental elms in Harford County.

ANTHRACNOSE (Gnomonia veneta)

Northeast As usual, this leaf disease was prevalent this spring. Reports of heavy infection were received from New York while moderate infection on sycamore and maple was noted elsewhere.

West Virginia Oak anthracnose was reported in Pendleton, Hardy, Grant, Hampshire, Preston and Tucker Counties this year. Anthracnose generally thrives best during wet springs, but due to the very dry weather in many areas, reports of anthracnose are sporadic.

YELLOWPOPLAR CANKER (Fusarium solani)

Virginia In several areas of the George Washington National Forest, cankered yellowpoplar stems were noticed this spring and summer, most of the cankering occurring on stems between 3 and 9 inches in diameter. The cankered trees observed were either dead or declining and extensive staining was generally found beneath most open cankers. It is believed that Fusarium solani is the fungus associated with the cankering. Isolations have recently been made and positive identification is pending upon isolations in culture. Positive identification results should be available in the next issue of the Reporter.

EUROPEAN POPLAR CANKER (Dothiehiza populea)

New York This fungus is causing severe damage to eastern cottonwoods and Lombardy poplars, especially on mature trees.

STRUMELLA CANKER

Pennsylvania Strumella cankers, mostly on red oaks, have been reported in Heath Township in Jefferson County in the vicinity of Clear Creek. This is a condition that has existed for some time and many of the trees are wind-blown at the canker.

West Virginia Strumella cankers have been reported as scattered among red oaks on the Gauley Ranger District of the Monongahela National Forest.

The utilization of cankered trees and the selection of canker-free crop trees should be the objective in cankered stands. During T.S.I. work, infected trees may be felled and rolled face down when removal is impractical and their presence in the stand is intolerable. Since fertile spores are not produced until after the tree dies, infected trees should not be girdled; a girdled tree infected with Strumella cankering will remain standing, although dead, for many years and shower inoculum on the residual stand.

A BLACK CHERRY CONDITION (cause unknown)

New York

A condition which might be described as a dieback is reported from Forest District 12. Symptoms are thin crowns and chlorosis of the foliage. Brown knot (?) and gummosis was also reported on many of the trees in eastern portions of Columbia and Rensselaer Counties. Branch and crown mortality is quite severe.

B. CONIFERS

ANNOSUS ROOT ROT (Fomes annosus)

Northeast

The development of sporophores of Fomes annosus continues to be retarded, apparently due to the dry conditions prevalent this year. However, there seems to be no reduction in kill caused by the fungus.

Virginia

Annosus root rot is causing mortality in pine plantations in Hanover and Amherst Counties. Damage has also been observed in planted and natural pine stands on six of the seven ranger districts on the George Washington National Forest. White, red, Virginia and pitch pines are most commonly affected.

West Virginia

A 70-acre white pine plantation in Tucker County (Clover Run Plantation), previously cited for its unusually rapid growth rate, has captured the interests of pathologists and soil scientists in addition to foresters. Fomes annosus is now widespread in this phenomenal plantation after two thinnings (1953 and 1960). Information on cutting history, soils, and disease incidence is being collected in an attempt to learn as much as possible about interrelationships among these three variables.

WHITE PINE BLISTER RUST (Cronartium ribicola)

Due to the generally dry season the production of pine infecting spores is regarded as being generally light this year.

WHITE PINE NEEDLE CAST

Northeast

This blight continues unabated and may be aggravated due to the droughty conditions this year. Symptoms of this disease have been noted throughout the northeast.

LITTLELEAF DISEASE (Phytophthora cinnamomi)

Virginia Shortleaf pines are reported as being damaged as follows:
Albemarle County - noted on scattered shortleaf pines on over 20 acres in the county. Buckingham County - extensive on shortleaf and Virginia pines on 200 acres in one area of the county.
Powhatan County - reported on shortleaf pines and mortality was noticed on over 30 acres.

DROUGHT

Virginia Drought is suspected of causing damage to scattered black oaks in several stands in Albemarle County.

FROST DAMAGE

Northeast Numerous reports of severe frost damage to beech have been received. Damage to ash, maple, poplars and Douglas firs was also noted but was rather spotty.

WINTER KILL

New Hampshire A noticeable browning of the high elevation spruce-fir on the high
New York portions of the White Mountain National Forest was investigated this summer. The browning was found to be confined entirely to the balsam fir. Severe erosion of the fir crowns had also occurred, probably during the severe cold spell around January 1, 1963, which was accompanied by high winds. Actual browning was confined to a few branches on each tree, but the total picture seen from a distance seemed to be that all the trees were brown. No refoliation of the brown branches had occurred by July. A severe browning of red spruce foliage is reported from Forest District 7. Trees are refoliating and damage is attributed to winter kill.

FOREST PEST CONTROL NOTES

European Pine Shoot Moth Control Studies by Robert Talerico et al. (Canadian Entomologist - 95: 522-524, 1963) indicate that the rate of growth of the host tree, red pine, was correlated with the degree of control obtained after chemical suppression of the European pine shoot moth. Thus, complete suppression resulted in about a 60 percent increase in the next year's height growth and a three-fold increase in number of side branches, with growth improving proportionately to degree of suppression. Also that the time control is applied also

materially affects tree growth. Summer treatment (late June to early July in Michigan) increased the height growth and number of side branches over no treatment. In contrast, spring (April in Michigan) suppression had no effect on height growth and number of side branches. Clearly, the growth benefits of summer suppression are due to the elimination of insects at the beginning of the generation before they can do very much feeding.

White Pine
Weevil
Evaluation

Region 7 entomologists in cooperation with the Northeastern Forest Experiment Station have initiated a series of field tests with the ultimate aim of developing more useful guidelines for evaluating white pine weevil damage, and for determining when to control and if control is economically justified. It is expected that these tests will be concluded some time in 1964. Future contact will be made with the various land managing agencies in this Region for assistance in carrying out these tests.

Fomes Annosus
Study

A study involving stump treatments will be initiated this fall in either a red or white pine plantation. Chemical treatment will employ urea and sodium tetraborate. Suitable plantations (unthinned, uninfected, but having a nearby inoculum source) are being investigated and actual stump treatment is to be done this fall, when the Fomes annosus infection potential becomes higher. Observations will be made six months and annually after treatment. Results and possible recommendations will be based upon a statistical analysis of variance. Periodic progress reports will be available in brief form in the Reporter.

Regional Insect
Disease Bank

A regional forest insect disease stockpile is being developed by the Southern Zone Entomologists for future forest insect control programs. All known disease causing organisms of forest insects will be field tested to determine their suitability for use in large-scale control programs. Once accepted they will be produced in large quantities under controlled conditions and stockpiled for distribution as needed in suppressing forest insect outbreaks. This is an important step in advancing the use of biological agents for forest insect control.

Shade Tree
Maladies

Under this title the Pennsylvania Forest Pest Report No. 12, July 8, 1963, discussed a problem that will be especially disturbing this season. We would like to quote this in full.

"Shade Tree Maladies - Foresters are often asked to explain the maladies of shade trees. For this reason a brief review of the shade tree situation is included. First it is surprising that trees are able to grow in many of the situations where they are planted. Compaction, poor root aeration, industrial fumes, and lack of moisture are a few of the constant problems. However, two summers of serious drought and a severe frost in many areas late this spring have left many trees in a very weakened condition. As a result fungi, which are not normally a problem, have caused diebacks and in some cases been the final factor which killed a tree. Serious diseases are present in the state; however, many of the trees can recover if we have a normal summer. Cutting dead branches back to green wood and sealing the wound is advisable. This will allow new foliage to fill the voids, and prevent rots and other problems. If fertilizer is used it should be of a type which releases nitrogen slowly and used as a light surface application. It is well to note that there are factors which can affect trees, and that serious diseases are also present".

Training
Courses

A detection system based on Observation Areas, as on the National Forests and in New Jersey, was begun in West Virginia in 1963. Training meetings held at Blackwater Falls State Park and at Charleston were planned by W. L. Freeman, Zone Entomologist. Instructors were Waldo Craig, State Entomologist, and Forest Pest Control Entomologists R. L. Talerico and W. L. Freeman. Freeman supervised the Blackwater Falls meeting and Talerico conducted the meeting at Charleston in Freeman's absence.

Zone
Personnel

Louis Shain, Southern Zone Pathologist, has been granted a leave of absence to enter North Carolina State College to begin work on his doctoral program.

Dr. William J. Stambaugh, Assistant Professor of Forest Pathology at Duke University, has been working with the Forest Pest Control Branch during the summer on the George Washington National Forest. Disease incidence observations and evaluation on the seven ranger districts have been the objectives of Dr. Stambaugh's work.

